

US Model AEP Model UK Model

# STEREO TURNTABLE SYSTEM

## SPECIFICATIONS

GENERAL

Power Requirements:

120 V ac, 60 Hz (US model) 110, 120, 220, or 240 V ac ~ adjustable, 50/60 Hz (AEP, UK model)

Power Consumption:

Dimensions:

12 W Approx. 430(w) x 110(h) x 350(d) mm 17(w) x 4<sup>3</sup>/s (h) x 13<sup>3</sup>/<sub>6</sub> (d) inches

including projecting parts and controls

Approx. 10 kg, 22 lb 1 oz (net) Approx. 11.3 kg, 24 lb 15 oz (in shipping carton)

Weight:

TURNTABLE

Platter:

31 cm, 121/4 inches, aluminum-alloy diacost

Linear BSL (brushless and slotless) Motor:

Direct drive, crystal-lock control system

33 1/s rpm, 45 rpm

Drive System: Speed:

Starting Characteristics: Comes to nominal speed within a 1/2

revolution (33 1/s rpm)

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK A ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

Wow and Flutter:

±0.04% (DIN) 0.025 % (WRMS)

Signal-to-noise Ratio: 75 dB (DIN-B)

Load Characteristics: 0 % at 150 g tracking force

Automatic System: Return, reject

TONEARM

Statically balanced, universal

Pivot-to-stylus Length: 216,5 mm. 8 1/2 inches

Overall Arm Length: 300 mm, 11 1/4 inches

16.5 mm, 21/32 inches Overhang:

Tracking Error: +3°, -1°

**Tracking-force Adjustment** 

Range: 0 - 3g

Headshell Weight: 17 g

Cartridge Weight Range: 12 - 18.5g 18 - 24.5g (with extra weight) (including headshell weight)

- Continued on page 2 -



## S-P7X

#### CARTRIDGE XL-15 (AEP, UK model)

Type: Moving magnet type

Frequency Response: 10 Hz - 30 kHz

Channel Separation: 25 dB at 1 kHz

Channel Separation: 2008 at 1 kHz

Output Voltage: 4 mV at 1 kHz, 5 cm/s

Load Impedance: 50 kΩ

Tracking Force:  $1.2-2.5\,\mathrm{g}$  (1.7 g recommended)

Stylus: Sony ND-15G Weight: 5.2 g

#### MODEL IDENTIFICATION

- Specification Label -

SONY

STEREO TURNTABLE SYSTEM

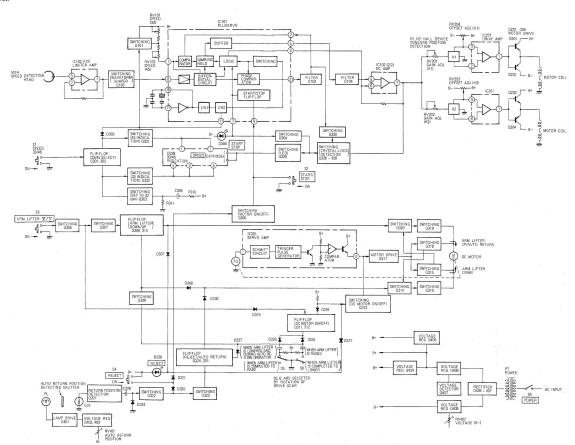
MODEL NO. PS-P7X AC 120V 60Hz 12W SERIAL NO.

MADE IN JAPAN

AC 120 V 60 Hz 12 W. . . . . . . US model AC110, 120, 220, 240 V ~ 50/60 Hz 12 W. . . . . . AEP, UK model

# SECTION 1 OUTLINE

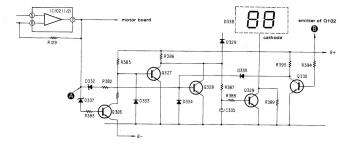
#### 1-1. BLOCK DIAGRAM



#### 1-2. CIRCUIT DESCRIPTION

#### CRYSTAL-LOCK DETECTION CIRCUIT

When the turntable has reached its designated speed this circuit indicates that the crystal-lock circuit is operating by increasing the brightness of the LED which indicates speed.



#### Voltage at point (2)

STOP mode: 0 V
At the moment the unit starts playing: 10 V
When the unit is playing stably: -1 V to 2 V
At the moment the unit stops: -10 V

At the moment the unit stops: -10 V At the moment turntable speed is changed from 33 rpm to 45 rpm: 10 V

At the moment turntable speed is changed from 45 rpm to 33 rpm: -10 V

## Voltage at point (3)

STOP mode: 0 V When STOP switch is depressed: 0 V At the moment turntable speed is changed from 45 rpm to 33 rpm: 0 V

At other times: more than 1 V

## OPERATION

When the voltage at point ♠ exceeds 8V, D332 and D328 turn ON. This turns Q329 OFF and the cathode of D338, an LED, is grounded through R389 and D338 grows dim. When the voltage at point ♠ falls to less than −8 V, D337 and Q326 turn OFF, and Q327 turns ON. This turns Q329 OFF and the cathode of D338 grows dim. In short, when the voltage at point ♠ is anywhere from −8 V to 8 V, Q329 turns ON, causing D338 to briethen.

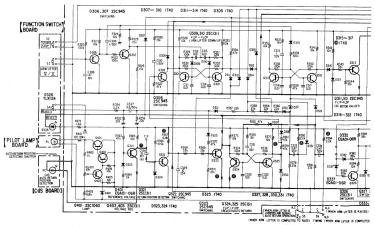
However, when the voltage at point (a) is zero, the voltage is detected at point (b) so that D338 is not brightly lit. When the voltage at point (c) is zero, Q330 turns OFF and Q328 turns ON. This turns Q329 OFF and D338 grows dim.

## AUTOMATIC RETURN OPERATION

When the tonearm enters the lead-out groove, the auto return position detecting shutter opens. The resistance value (CdS) of Q321 emitter decreases and C328 is discharged (See current ●). This turns Q322 OFF and the trigger pulse of the current ● turns Q323 ON. (Also when REJECT switch (S4) is depressed, Q323 turns ON.)

On the other hand, the current passing through R375 and C331 holds Q324 OFF and Q325 ON as flip-flop, when POWER switch (S8) turns ON. But when Q323 turns ON for a moment, the flip-flop is reversed. That is to say, Q324 is turned ON and Q325 OFF. (See currents ❸ and ④). The REJECT indicating LED is lit by current ④.

Another flip-flop, Q311 and Q312, is held ON and OFF by the current passing through R337 and C315 when POWER switch (88) is turned ON. As a result, current to turns Q313 ON and the output of IC 301 (terminal 6) is grounded. However, when Q324 turns ON Q313 is turned OFF so that the



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## AUTOMATIC RETURN OPERATION

When the tonearm enters the lead-out groove, the auto return position detecting shutter opens. The resistance value (CdS) of 0321 emitter decreases and C328 is discharged (See current ● ). This turns Q322 OFF and the trigger pulse of the current ● turns Q323 ON. (Also when REJECT switch (S4) is depressed, Q323 turns ON.)

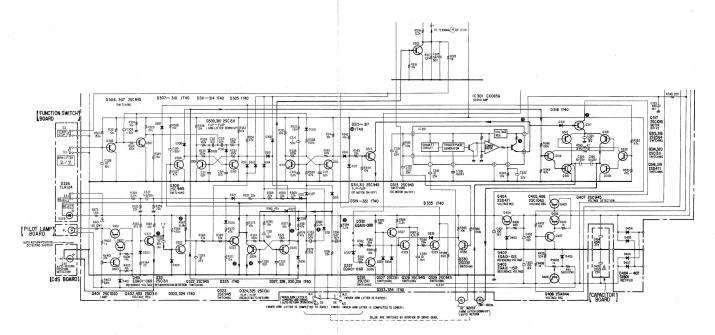
On the other hand, the current passing through R375 and C331 holds Q324 OFF and Q325 ON as flip-flop, when POWER switch (S8) turns ON. But

when Q323 turns ON for a moment, the flip-flop is reversed. That is to say, Q324 is turned ON and Q325 OFF. (See currents **@** and **@**). The REJECT indicating LED is lit by current **@**.

Another flip-flop, Q311 and Q312, is held ON and OFF by the current passing through R337 and C315 when POWER switch (88) is turned ON. As a result, current ① turns Q313 ON and the output of IC 301 (terminal ⑥) is grounded. However, when Q324 turns ON Q313 is turned OFF so that the

output of IC 301 (current ) is applied to the base of Q317. When Q325 turns OFF, Q314, Q316 and Q318 are turned ON by current ) . Current () flows and the DC motor starts rotating. The drive gear turns clockwise so that the arm lifter raises. As soon as the arm lifter is completely raised, timing switch (\$5) switches from N.C. to N.O. Current () turns Q305 ON so that the START/STOP flip-flop is reversed and the turntable stops rotating. The drive gear is kept rotating by current () and the

tonearm starts the return operation. When the tonearm reaches its rest, timing switch (S6) switches from N.C. to N.O. Current **©** turns Q325 ON and Q324 OFF interrupting current **©** turning off the REJECT indicating LED.



of Q102

0332

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38 is B is This

- 6 -

-- 7. --

## ARM LIFTER UP/DOWN OPERATION

The current passing through R337 and C315 holds Q311 ON and Q312 OFF as a flip-flop when POWER switch (S8) turns ON. Therefore, Q313 is turned ON by current ❸ and the output of IC301 (terminal ⑥) is grounded. Thus, when ARM LIFTER switch (S3) is depressed Q306 turns OFF. (current ④). At the same time, current ④ turns Q312 ON and current ④ turns Q313 OFF. The output of IC 301 (current ④) is applied to the base of Q317 and this turns Q313 ON.

## **Tonearm Raising Operation**

The flip-flop, Q309 and Q310 is reversed every time current **6** flows or not flows. When POWER

- 8 -

switch (S8) turns ON, the current passing through R326 and C316 turns Q308 ON for a moment. This holds Q309 ON and Q310 OFF. Thus, when ARM LIFTER switch (S3) is depressed, and this turns Q307 ON. The flip-flop is reversed, that is to say, Q309 turns OFF and Q310 ON.

Current **6** turns Q314, Q316 and Q318 ON and current **6** flows. The DC motor starts rotating and the drive gear turns clockwise so that the arm lifter starts raising.

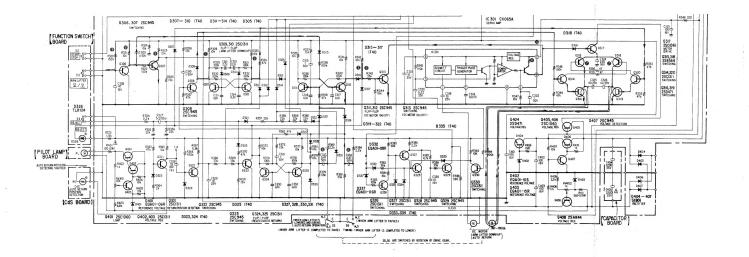
As soon as the drive gear reaches the position where the arm lifter is completely raised, timing switch (S5) switches from N.C. to N.O. The flipflop is reversed by current **3**′, that is to say, Q311 turns ON and Q312 OFF. Current **9** turns

Q313 ON and the output of IC 301 (terminal 6) ) is grounded. As a result, Q317 turns OFF interrupting current 10 and the DC motor stops rotating.

#### Tonearm Lowering Operation

When ARM LIFTER switch (S3) is depressed again, Q317 turns ON reversing the flip-flop, Q309 and Q310. That is to say, Q310 turns OFF and Q309 turns ON. Current **9** turns Q320, Q319 and Q315 ON so that current **9** flows. The DC motor starts rotating and the drive gear turns counterclockwise so that the arm lifter starts lowering. As soon as the drive gear reaches the position where the arm lifter is completely lowered, timing switch (S6) switches

from N.C. to N.O. The flip-flop is reversed by current ① that is to say, Q311 turns ON and Q312 turns OFE. current ② turns Q131 ON and the output of IC 301 (terminal ⑥) is grounded. As a result, Q317 turns OFF, interrupting current ② and the DC motor stops rotatine.



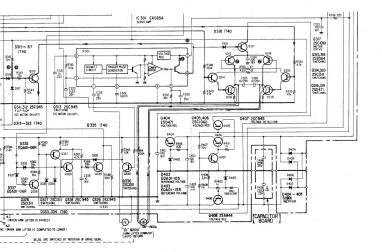
## SECTION 2 DISASSEMBLY

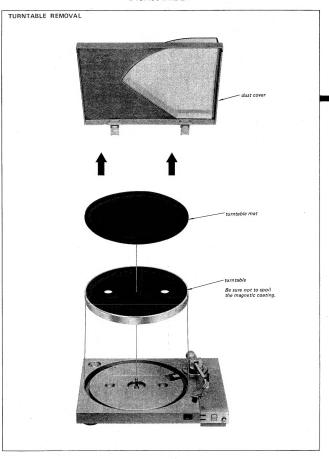
Q313 ON and the output of IC 301 (terminal ⑥) is grounded. As a result, Q317 turns OFF interrupting current ② and the DC motor stops rotating.

#### Tonearm Lowering Operation

When ARM. LIFTER switch (S3) is depressed again, Q317 turns ON reversing the flip-flop, Q309 and Q310. That is to say, Q319 turns OFF and Q309 turns ON. Current **6** turns Q320, Q319 and Q315 ON so that current **7** flows. The DC motor starts rotating and the drive gear turns counterclockwise so that the arm lifter starts lowering. As soon as the drive gear reaches the position where the arm lifter is completely lowered, timing switch (S6) switches

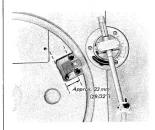
from N.C. to N.O. The flip-flop is reversed by current **②** that is to say, Q311 turns ON and Q312 turns OFF. Current **③** turns Q313 ON and the output of IC 301 (terminal ⑥) is grounded. As a result, Q317 turns OFF, interrupting current **④** and the DC motor stops rotating.





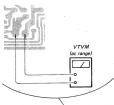
#### Speed-Detecting Head Output Adjustment

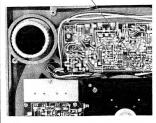
Adjust the position of the speed-detecting head so that the VTVM reading is 25-50~mV ac at 33~rpm.



Note: Be sure not to spoil the magnetic coating of the turntable.

The clearance between the magnetic coating rim and the speed-detecting head is more than 0.3 mm.





#### Speed Adjustment

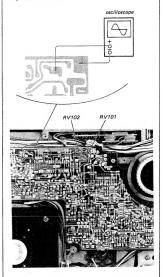
- 1. Set the SPEED switch to "45" position.
- Adjust RV102 for specified waveform as shown on the oscilloscope.



- 3. Set the SPEED switch to "33" position.
- Adjust RV101 for specified waveform as shown on the oscilloscope.



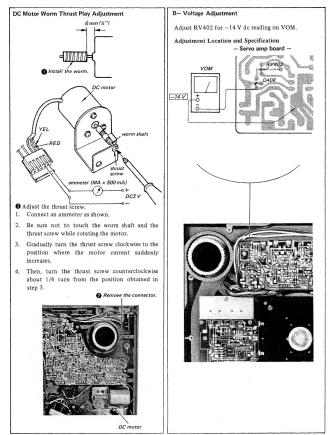
## Adjustment Location



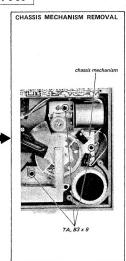
# SECTION 3 ADJUSTMENTS

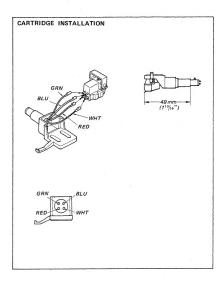
#### 3-1. MECHANICAL ADJUSTMENT

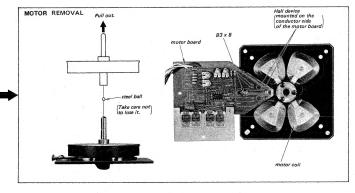
#### 3-2. ELECTRICAL ADJUSTMENTS



## PS-P7X







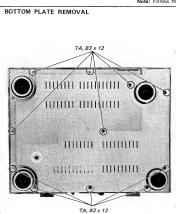
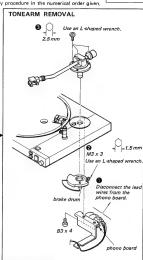


Photo: AEP model



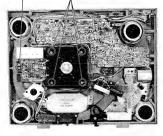
## SERVO AMP BOARD REMOVAL

TA, 83 x 10 serve amp board TA, 83 x 10

Photo: AEP model

#### MOTOR SECTION REMOVAL

TA, B3 x 10 TA, BV4 x 12



Refer to

the figure

shown below.

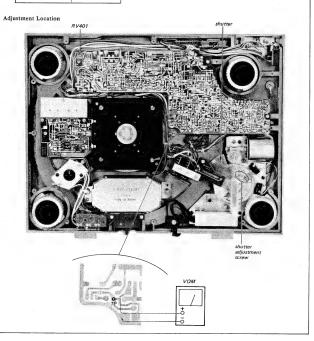
#### Automatic Return Adjustment

- 1. Turn the power switch on.
- 2. Bring the tonearm toward the center spindle.
- 3. Adjust RV401 for 2.5 V dc reading on the VOM.
- 4. Play the test record (YFSB-6, BAND 2,33 rpm).
- Turn the shutter adjustment screw so that tonearm starts to return at count of 15-17.

Tuning direction	Count of return-point
clockwise	up
counterclockwise	down

- 6. Play the test record (YFSB-6, BAND3-6, 33 rpm)
- 7 Make sure that the tonearm starts to return when only 1 kHz playback signal is heard. If necessary, adjust RV401.

Tuning direction	Return-point
clockwise	sooner
counterclockwise	later



#### Hall Device Gain Adjustment (33 rpm)

- Disconnect the white lead wire and connect the regulated power supply as shown below.
- Connect an oscilloscope to H1 and adjust RV201 for the specified waveform on the oscilloscope.
- Connect an oscilloscope to H2 and adjust RV202 for the specified waveform on the oscilloscope.

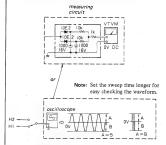
Note: Set the sweep time longer for

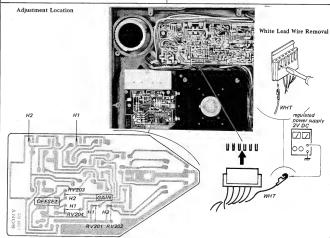
easy checking the waveform.

oscilloscope

#### Motor Amp Offset Adjustment (33 rpm)

- Disconnect the white lead wire and connect the regulated power supply as shown below.
- Connect VTVM or oscilloscope to H1 and adjust RV204 for 0 V dc VTVM reading or the waveform on oscilloscope as shown below.
- 3 Connect VTVM or oscilloscope to H2 and adjust RV203 for 0 V dc VTVM reading or the waveform on oscilloscope as shown below.





Refer to the figure

# m)

#### Hall Device Gain Adjustment (33 rpm)

- Disconnect the white lead wire and connect the regulated power supply as shown below.
- Connect an oscilloscope to H1 and adjust RV201 for the specified waveform on the oscilloscope.
- Connect an oscilloscope to H2 and adjust RV202 for the specified waveform on the oscilloscope.

Note: Set the sweep time longer for

easy checking the waveform.

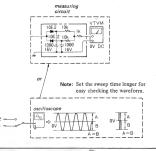
oscilloscope

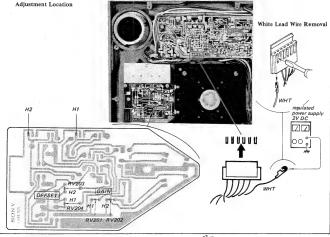
# Motor Amp Offset Adjustment (33 rpm)

 Disconnect the white lead wire and connect the regulated power supply as shown below.

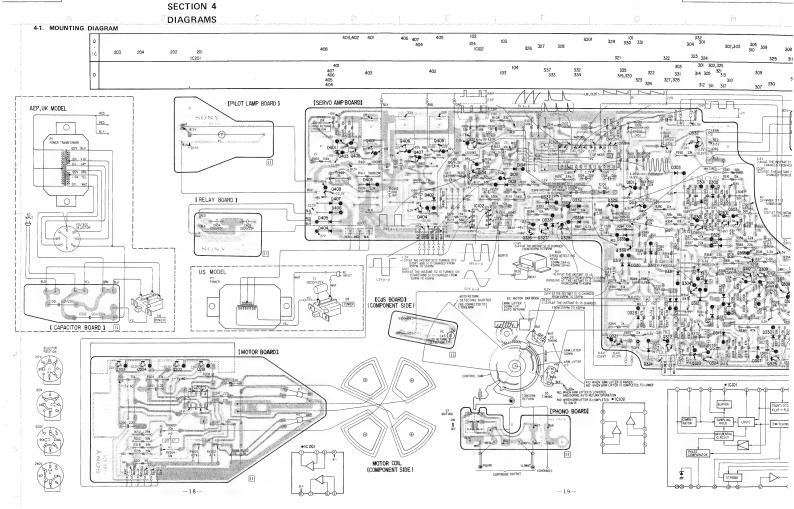
**MEMO** 

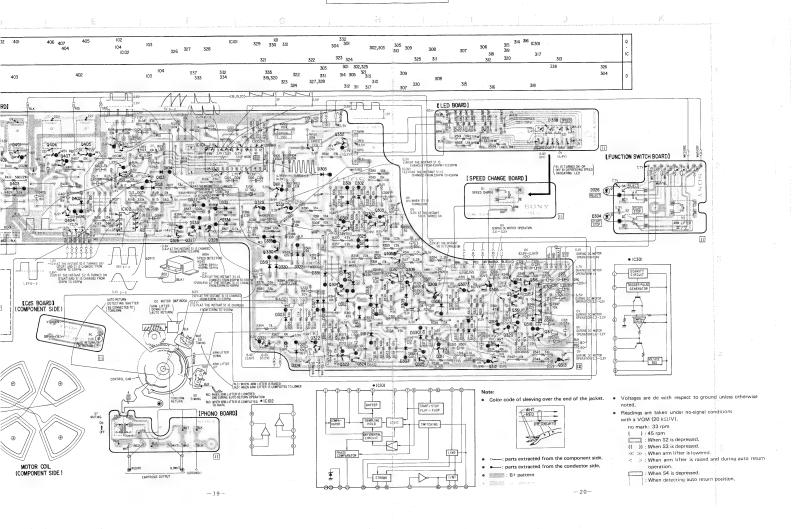
- Connect VTVM or oscilloscope to H1 and adjust RV204 for 0 V dc VTVM reading or the waveform on oscilloscope as shown below.
- 3 Connect VTVM or oscilloscope to H2 and adjust RV203 for 0 V dc VTVM reading or the waveform on oscilloscope as shown below.

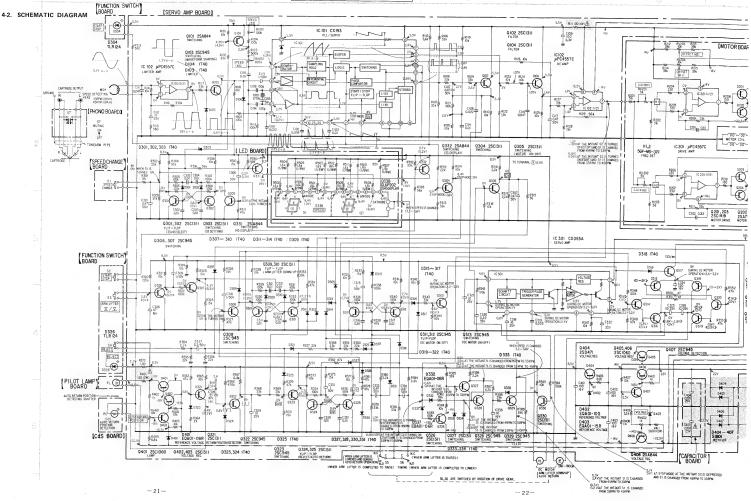




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#### Replacement Semiconductors

For replacement, use semiconductors except in ( ).

Q101, 331, 332, 408: 2SA1027R (2SA844)



Q102, 104, 301-305, Q309, 310, 314, 320, Q321, 324-327, 402, Q403, 330



Q103, 306-308, 311-313, ): 2SC1364 (2SC945) 0322, 323, 328, 329, 407



Q201, 203: 2SC1061 (2SC1419) Q317: 2SC1061



Q202, 204; 2SA671 (2SA755)



Q315, 318: 2SA684

Q316, 319, 404: 2SC1474 (2SD471)





Q401, 405, 406: 2SC1061 (2SC1060)



IC101: CX193 1 2 3 4 5 6 7 8 9 10 111

IC102, 201: µPC4557C 8765 9999



H1, 2: 5GF-MS-07F

D103, 104, 301-303, 305, 307-325 3151555 (IT40)

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unless otherwise noted.

 Circled letters ( A) to (Z) are applicable to European models only.

(-) = slotted head



D304):TLR124

D332: EQB01-08 (EQA01-08R) D337):EQB01-06 (EQA01-06R) D402: EQB01-10 (EQA01-10S) D403: EQB01-15 (EQA01-15R)



D338: GL6P202

D404-407: 10E2 (SIB01-02)



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#### EXPLODED VIEWS Α В С (1) • B 4-862-663-00 (D) X-4862-608-0 (i) Cover Ass'y, dust; including parts marked • A, B Refer to the exploded view (5) TA, P 3x10 @ PAX8 4-857-601-11 (A) Cushion, dust cow 4-862-667-00 (H) 1-534-817-XX (AEP model) (E 1-534-986-XX (US model) 4-808-459-31 (A) 4-862-669-00 P Turntable 4-862-683-00(US model) 4-862-686-00 (B) (AEP, UK model) 701-682-00 Stopper, card (US made) B 3×10 & 4-827-486-00 A Bracket, power cord 1-551-063-00 (F) B 3x10 ₺ -Stapper, phono cord X-4862-605-0 (D) Insulator Ass'y B PTPWH 3x10 4-858-522-00 (A) Refer to the exploded view 2 1-446-536-00 (US model) A. 1-446-537-00 (AEP, UK model) (I) Transformer, power (PT) Refer to the exploded view (4) 4-858-684-00 (A) Rase insulator @ LW 3 4-812-554-11 (A) ₫TA, B 3x8 ₫ TA, B 3×10 AEP. UK model ₫ B 3×10 4-862-672-11 (H) X-4862-605-0 D ₫ B 3x10 TA, BV 4x12 X-4862-605-0 (D) 4-847-555-00 (A) Label, voltage display 3-413-691-00 TA, B 3x12 Clamp, cord (A) J TA, B 3×12 4-862-672-00 Plate, bottom (US model) ₫ TA, B 3×12 . Items with no part number and/or no description are not stocked because they are seldom required for routine service. All screws are Phillips (cross recess) type Note: The components identified by shading and mark

A are critical for safety. Replace only with

part number specified.

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SECTION 5

A-4637-035-A ©

-4-862-618-00 (B)

Washer, arm rest

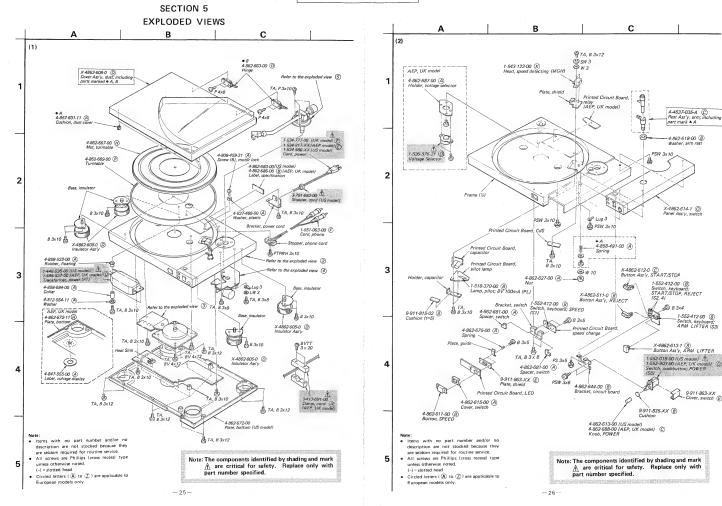
X-4862-614-1 (0)

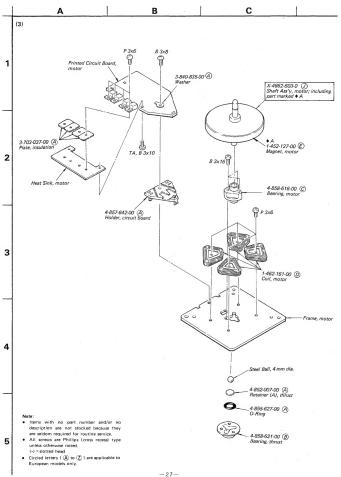
1-552-412-00 (B)

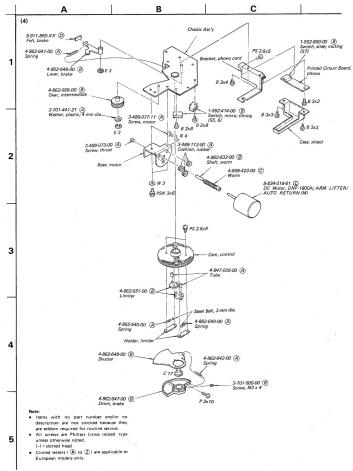
Switch, keyboard; ARM LIFTER (\$3)

9-911-863-XX —Cover, switch (E)

Rest Ass'y, arm; including part mark A

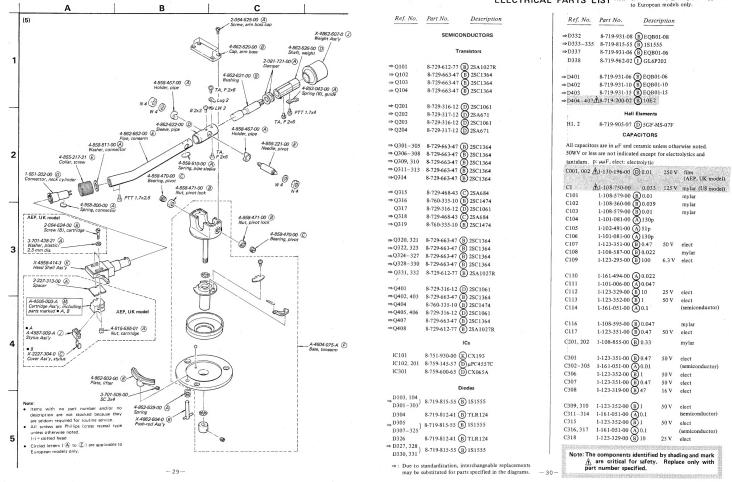






## SECTION 6

ELECTRICAL PARTS LIST Note: Circled letters ( A to ) are applicable to European models only



Ref. No.	Part No.	Descri	ption	
C319	1-108-591-00 (	B) 0.033		mylar
C3.20	1-131-211-00 (	B) 0.22	35 V	tantalum
C321	1-123-329-00 (	B) 10	25 V	elect
C322	1-123-352-00 (	B) 1	50 V	elect
C323	1-123-320-00 (	B) 100	16 V	elect
C324	1-123-321-00 (	B) 220	16 V	elect
C325, 326	1-123-329-00 (	B) 10	25 V	elect
C327	1-123-354-00 (	B) 3.3	50 V	elect
C328	1-121-926-00 (	B) 33	10 V	elect
C329	1-123-329-00 (	B) 10	25 V	elect
C330	1-161-051-00 (	A) 0.1		(semiconductor)
C331	1-123-352-00	B) 1	50 V	elect
C332	1-161-051-00 (	A) 0.1		(semiconductor)
C333, 334	1-123-351-00	B) 0.47	50 V	elect
C335	1-123-316-00	B) 10	16 V	elect
C401-403	1-123-320-00 (	B) 100	16 V	elect
C404, 405	A1-123-338-00 (	C) 2200	25 V	elect

#### RESISTORS

All resistors are in ohms. Common WW carbon resistors are omitted. Refer to the list on the last page for their part numbers.

R111	A1-213-132-00 (	A) 120	1 W	metal oxide
R401	<u>M</u> 1-206-642-00 (	B) 120	2 W	(nonflammable) metal oxide (nonflammable)
R411	1-244-867-00 (	A) 560	3/2 W	carbon
R501-512	1-210-371-00	A) 1.6 k	1/a W	carbon
RV101	1-226-238-00 (	B) adjusta	ble, 50k	-B; speed; 33
RV102	1-226-239-00 (	B) adjusta	ble, 100	k-B; speed; 45
RV201, 202	2 1-226-235-00 (	B) adjusta	ble, 5k-l	B; gain
RV203, 204	1-226-236-00 (	B) adjusta	ble, 10k	-B; offset
RV401	1-226-236-00 (	B) adjusta	ble, 10k	-B; return position
RV402	1-226-233-00	B) adjusta	ble, 1ks	; B-voltage
		-		

## SWITCHES

S1

S2

S3	1-552-412-00	B) Keyboard, ARM LIFTER
S4	1-552-412-00	B) Keyboard, REJECT
S5, 6		Micro, timing
S7	1-552-800-00 (	B) Slide, muting
S8	A1-552-018-00	Pushbutton, POWER (US model)
SR	A1.552 and no (	DRUNKSHIN BOUTE (LEE DE LEE de D

1-552-412-00 (B) Keyboard, SPEED 1-552-412-00 (B) Keyboard, START/STOP Note: Circled letters ( (A) to ( $\overline{\mathbb{Z}}$ ) are applicable to European models only.

Ref. No	Part No.	Description
	MISCEL	LANEOUS
М	8-834-018-61 (	D DC Motor, DNF-1800A; ARM
		LIFTER/AUTO RETURN
MGH		Head, speed detecting
PC	1-800-652-00	
PL	1-518-370-00 (	B) Lamp, pilot; 8 V 100 mA
PT	A1-446-536-00	Transformer, power (US model)
PT	<b>∆1-446-537-00</b> (	Transformer, power (AEP, UK mode
X101	1-527-380-00 (	D) Crystal
	1-452-127-00 (	E) Magnet, motor
	1-462-161-00	D) Coil, motor
	A1-526-576-21 (	D) Voltage Selector (AEP, UK model)
	<b>▲1-534-777-00</b> (	E) Cord, power (UK model)
	A1-534-817-XX	E) Cord, power (AEP model)
	▲1-534-986-XX	Cord, power (US model)
	1-535-506-00 (	A) Terminal
	1-551-063-00	F)Cord, phono
	1-560-064-00	B) Pin, connector
	1-561-202-00	Connector, neck-cylinder

## ACCESSORIES AND PACKING MATERIALS

Part No.	Description
3-701-616-00 (	A) Bag, plastic
3-701-630-00 (	A) Bag, plastic
3-701-634-00 (	B) Bag, plastic
3-701-730-00 (	B) Bag, plastic, IBM card
3-701-806-00	B Adaptor, 45 rpm
3-770-732-21	Manual, instruction (US model)
3-770-732-11	Manual, instruction (AEP, UK model)
3-794-233-21	Sheet, instruction (US model)
4-857-657-00 (	B) Bag, protection
4-858-587-00 (	B) Case, accessory
4-862-633-00 (	C) Sub-weight
4-862-689-00 (	F) Carton
4-862-677-00 (	C)Cushion (right)
4-862-678-00 (	C)Cushion (left)
4-862-679-00 (	C)Case, accessory
4-862-680-00	A Plate, protection

Note: The components identified by shading and mark  $\hat{A}$  are critical for safety. Replace only with part number specified.

#### 1/4 WATT CARBON RESISTORS ®

Note: Circled letter (A) is applicable to European models only.

											Lutopean ii		
Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00	1.0M	1-246-545
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00	1.1M	1-210-814
1.2	1-246-403-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00	1.2M	1-210-815
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-576-00	13k	1-246-500-00	130k	1-246-524-00	1.3M	1-210-816
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-577-00	15k	1-246-501-00	150k	1-246-525-00	1.5M	1-210-817
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-578-00	16k	1-246-502-00	160k	1-246-526-00	1.6M	1-210-818
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-579-00	18k	1-246-503-00	180k	1-246-527-00	1.8M	1-210-819
2.0	1-246-408-00	20 .	1-246-432-00	200	1-246-456-00	2.0k	1-246-580-00	20k	1-246-504-00	200k	1-246-528-00	2.0M	1-210-820
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-581-00	22k	1-246-505-00	220k	1-246-529-00	2.2M	1-210-821
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-582-00	24k	1-246-506-00	240k	1-246-530-00	2.4M	1-244-754
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-583-00	27k	1-246-507-00	270k	1-246-531-00	2.7M	1-244-755
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-584-00	30k.	1-246-508-00	300k	1-246-532-00	3.0M	1-244-756
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-585-00	33k	1-246-509-00	330k	1-246-533-00	3.3M	1-244-757
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-586-00	36k	1-246-510-00	360k	1-246-534-00	3.6M	1-244-758
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-587-00	39k	1-246-511-00	390k	1-246-535-00	3.9M	1-244-759
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00	4.3M	1-244-760
4.7	1-246-417-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00	4.7M	1-244-761
5.1	1-246-418-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00	5.1M	1-244-762
5.6	1-246-419-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00		
6.2	1-246-420-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00		
6.8	1-246-421-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00		
7.5	1-246-422-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00		
8.2	1-246-423-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00		
9.1	1-246-424-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00		

#### HARDWARE NOMENCLATURE

Screw:	P 3 x 10 L: Length in mm D: Diameter in mm Type of head Indicated slotted-head on		Nut, Washer, Retaining ring:  N 3  — Diameter of usable screw or shaft — Reference designation
	Unless otherwise indicated	d, it means	Potential Control of the Control of

Reference Designation	Shape	Description	Remarks
Р	₽	pan-head screw	binding-head (B) screw for replacement
PWH	₽	pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP	80	pan-head screw with spring washer	binding-head (B) screw and spring washer for replace- ment
PSW PSPW	<b>ess</b>	pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R	₽	round-head screw	binding-head (B) screw for replacement
К	Þ	flat-countersunk-head screw	
RK	₽	oval-countersunk-head screw	
В	₽	binding-head screw	
T	₽	truss-head screw	binding-head (B) screw for replacement
F	₽∋	flat-fillister-head screw	
RF	€	fillister-head screw	1
BV	€⊃	braizer-head screw	1

cross-recessed head (Phillips type).

Reference Designation	Shape	Description	Remarks	
		SELF-TAPPING SCRE	WS	
TA	1	self-tapping screw	ex: TA, P 3 x 10	
PTP	•	pan-head self-tapping binding-head self- tapping (TA, B) scre replacement		
PTPWH	•	pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement	
PTTWH	<b>₽</b>	pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement	
		SET SCREWS		
SC		set screw		
sc	-⊕€⊒-	hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket	
		NUT		
N	-0-0-	nut		
	-	WASHERS		
w	0	flat washer		
sw	-0+	spring washer		
LW	0	internal-tooth lock washer	ex: LW3, internal	
LW	0	external-tooth lock washer	ex: LW3, external	
		RETAINING RINGS		
E	0	retaining ring		
G	ଜ	grip-type retaining ring		

## Sony Corporation

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